

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Att'y Ref: G25-078	Serial No: 10/646,980
	Applicant: CHU et al.	
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United States Patent Documents

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date
QHaa	4,000,137	12/1976	Dvonoch et al.			
QHaa	4,336,381	06/1982	Nagata et al.			
QHaa	4,861,759	08/1989	Mitsuya et al.			
QHaa	4,879,277	11/1989	Mitsuya et al.			
QHaa	4,,900,828	02/1990	Belica et al.			
QHaa	4,916,122	04/1990	Chu et al.			
QHaa	4,963,533	10/1990	De Cleroq et al.			
QHaa	4,968,674	11/1990	Taniyama et al.			
QHaa	5,041,449	08/1991	Belleau et al.			
QHaa	5,047,407	09/1991	Belleau et al.			
QHaa	5,059,690	10/1991	Zahler et al.			
QHaa	5,071,983	12/1991	Koszalka et al.			
QHaa	5,151,426	09/1992	Belleau et al.			
QHaa	5,179,104	01/1993	Chu et al.			
QHaa	5,185,437	02/1993	Koszalka et al.			
QHaa	5,204,466	04/1993	Liotta et al.			
QHaa	5,210,085	05/1993	Liotta et al.			
QHaa	5,234,913	08/1993	Furman, Jr. et al.			
QHaa	5,248,776	09/1993	Chu et al.			
QHaa	5,270,315	12/1993	Belleau et al.			

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<i>QHM</i>	5,444,063	08/1995	Schinazi			
<i>QHM</i>	5,466,806	11/1995	Belleau et al.			

Foreign Patent Documents

Examiner Initial	Publication Number	Publication Date	Country	Class	Subclass	Translation	
						Yes	No
<i>QHM</i>	0 206 497	12/1986	Europe				
<i>QHM</i>	0 217 580	04/1987	Europe				
<i>QHM</i>	0 337 713	10/1989	Europe				
<i>QHM</i>	0 352 248	01/1990	Europe				
<i>QHM</i>	0 375 329	06/1990	Europe				
<i>QHM</i>	0 382 526	08/1990	Europe				
<i>QHM</i>	0 433 898	12/1990	Europe				
<i>QHM</i>	0 494 119	07/1992	Europe				
<i>QHM</i>	0 515 144	11/1992	Europe				
<i>QHM</i>	0 515 156	11/1992	Europe				
<i>QHM</i>	0 515 157	11/1992	Europe				
<i>QHM</i>	0 526 253	02/1993	Europe				
<i>QHM</i>	88/07532	10/1988	WIPO				
<i>QHM</i>	90/12023	10/1990	WIPO				
<i>QHM</i>	91/11186	08/1991	WIPO				
<i>QHM</i>	91/17159	11/1991	WIPO				
<i>QHM</i>	92/10496	06/1992	WIPO				
<i>QHM</i>	92/10497	06/1992	WIPO				
<i>QHM</i>	92/14729	09/1992	WIPO				
<i>QHM</i>	92/14743	09/1992	WIPO				
<i>QHM</i>	92/15308	09/1992	WIPO				
<i>QHM</i>	92/18517	10/1992	WIPO				
<i>QHM</i>	92/21676	10/1992	WIPO				
<i>QHM</i>	94/14456	07/1994	WIPO				
<i>QHM</i>	94/27616	12/1994	WIPO				

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James H. Allen

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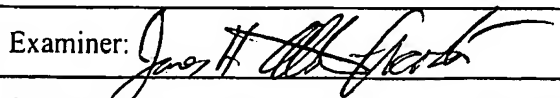
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<i>John</i>	95/18137	07/1995	WIPO			
<i>John</i>	95/20595	08/1995	WIPO			
<i>John</i>	95/21183	08/1995	WIPO			

The line indicates these documents were unavailable for consideration, and were not considered.

Examiner Initial	Other Documents (by Title, Author Date, Pertinent Pages, Etc.)
	Ball, C.R., "Transplantable Colon Tumors as Chemotherapy Screening Models", <i>Cancer (Phila.)</i> 36:2437-2440 (1975).
	Balzarini, J. et al., "Potent and Selective Anti-HTLV-III/LAV Activity of 2',3'-Dideoxycytidine... " <i>Biochem. Biophys. Res. Commun.</i> 140(2):735-742 (1986).
	Beach, J.W., et al., "Synthesis of Enantiomerically Pure (2'R,5'S)--(-)-1+[2-(hydroxymethyl)thiolan-5-yl]Cytosine..." <i>J. Org. Chem.</i> 57:2217-2219 (1992).
	Belleau, B., et al., "Design and Activity of a Novel Class of Nucleoside Analogs..." <i>Int. Conf. On AIDS</i> , Montreal, Quebec, Canada, Jun. 4-9, 1989.
	Bouffard, D.Y., et al., "Kinetic Studies on 2',2'-Difluorodeoxycytidine (gemcitabine)..." <i>Biochem. Pharmacol.</i> 45:1857-1861 (1993).
	Carter, et al., "Activities of (-)-Carbovir and 3'-Azido-3'-Deoxythymidine Against..." <i>Antimicrobial Agents and Chemotherapy</i> , 36(6):1297-1300 (1990).
	Chang, C-N., et al., "Biochemical Pharmacology of (+) and (-)-2',3'-Dideoxy-3'-thioacytidine as Anti-Hepatitis B Virus Agents" <i>J. Biol. Chem.</i> 267:22414-22420 (1992).
	Chang, Chein-Neng et al., "Deoxycytidine Deaminase-Resistant Stereoisomer" <i>J. Biol. Chem.</i> , 357(20):13938-13942 (1992).
	Chang, Chungming, et al., "Production of Hepatitis B Virus in vitro by Transient Expression..." <i>The EMBO J.</i> 6(3):675-680 (1987).
	Chen, Chin-Ho, et al., "Delayed Cytotoxicity and Selective Loss of Mitochondrial DNA in Cells..." <i>J. Biol. Chem.</i> 265 (20):11934-11937 (1989).
	Cheng, Y.C., et al., "Human Deoxycytidine Kinase Purification and Characterization..." <i>Biochim. Biophys. Acta</i> 481:481-492 (1977).
	Chottiner, E.G., "Cloning and Expression of Human Deoxycytidine Kinase cDNA"

Examiner:



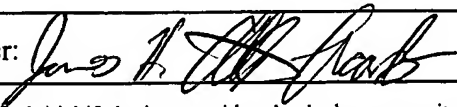
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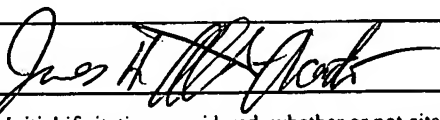
	<i>Proc. Natl. Acad. Sci. USA</i> , 88:1531-1535 (1991).
	Chu, C.K., et al., "An Efficient Total Synthesis of 3'-Azido-3'-Deoxythymidine (AZT) and 3'-Azido-2',3'-Dideoxyuridine (AZDDU, CS-87)...." <i>Tetrahedron Lett.</i> 5349 (1988).
	Chu, et al., "Comparative Activity of 2',3'-Saturated and Unsaturated Pyrimidine and Purine Nucleosides...." <i>Biochem. Pharm.</i> 37(19):3543-3548 (1988).
	Chu, et al., "Structure-Activity Relationships of Pyrimidine Nucleosides as Antiviral Agents...." <i>J. Med. Chem.</i> 32:612 (1989).
	Chu, C.K. et al., "2'-Fluoro-5-Methyl-β-L-Arabinofuranosyluridine (L-FMAU) as a Novel Antiviral Agent for Hepatitis B...." <i>Antimicrob. Agents Chemother.</i>
	Coates, J. et al., "The Separated Enantiomers of 2'-deoxy-3'-thiacytidine (BCH-189)..." <i>Antimicrob. Agents Chemother.</i> 36:202-205 (1992).
	Cretton, E., et al., "Catabolism of 3'-Azido-3'-Deoxythymidine in Hepatocytes and Liver Microsomes...." <i>Molecular Pharmacology</i> 39:258-255 (1991).
	Cretton, E., et al., "Pharmokinetics of 3'-Azido-3'-Deoxythymidine..." <i>Antimicrobial Agents and Chemotherapy</i> 35(5):801-807 (1991).
	Di Bisceglie, Adrian M., Rutsgi, Vinod K. et al., "Hepatocellular Carcinoma" NIH Conference, <i>Annals of Internal Medicine</i> 108:390-401 (1988).
	Di Marco, M.P. et al. "High-Performance Liquid Chromatographic Determination of the Isomeric Purity of a Series of Dioxolane Nucleoside Analogs" <i>J. Chromatogr.</i> 645:107-114 (1993).
	Doong, Shin-Lian., et al., "Inhibition of the Replication of Hepatitis B Virus in vitro...." <i>Proc. Natl. Acad. Sci. USA</i> 88:8495-8499 (1991).
	Evans, David A., et al., "New Procedure for the Direct Generation of Titanium Enolates...." <i>J. Am. Chem. Soc.</i> , 112:8215-8216 (1990).
	Finlay, G. J., et al., "A Semiautomated Microculture Method for Investigating Exponentially Growing Carcinoma Cells" <i>Anal. Biochem.</i> , 139:272-277 (1984).
	Furman, et al., "The Anti-Hepatitis B Virus Activities, Cytotoxicities and Anabolic Profiles...." <i>Antimicrob. Agents and Chemother.</i> , 36(12):2686-3692 (1992).
	Ganem, Don et al., "The Molecular Biology of the Hepatitis B Viruses" <i>Ann. Rev. Biochem.</i> , 56:651-693 (1987).
	Gosselin, G., "Enantiomeric 2',3'-Deoxycytidine Derivatives are Potent Human Immunodeficiency Virus Inhibitors in Cell Culture" <i>C.R. Acad. Sci. Paris Sci. Vie</i>

Examiner: 	Date Considered: 9/9/05
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.	

See note on
page 3.

	317:85-89 (1994).
	Jeong, L., et al., "Asymmetric Synthesis and Biological Evaluation of β -L-(2R,5S)- and α -L-1(2R,5R)-1,3-Oxathiolane-Pyrimidine and -Purine Nucleosides and Potential Anti-HIV Agents" <i>J. Med. Chem.</i> , 36: (1993).
	Kassianides, Chris, et al., "Inhibition of Duck Hepatitis B Virus Replication by 2',3'-Dideoxycytidine" <i>Gastroenterology</i> 33:6899-6902 (1992).
	Kim, H. O., et al., "Potent Anti-HIV and Anti-HBV Activities of (-)-L- β -Dioxolane-C...." <i>Tetrahedron Lett.</i> , 33:6899-6902 (1992).
	Kim, H.O., et al., "L- β -(2S,4S)- and L- α -(2S,4R)-Dioxolanyl Nucleosides as Potential Anti-HIV Agents...." <i>J. Med. Chem.</i> 36:519-528 (1993).
	Kim, H.O., et al., "13-Dioxolanylpurine Nucleosides (2R,4R) and (2R,4S) with Selective Anti-HIV-1 Activity...." <i>J. Med. Chem.</i> 36:30-37 (1993).
	Krenitsky, T.A. et al., "3'-Amino-2',3'-Dideoxyribonucleosides of Some Pyrimidines: Synthesis and Biological Activities" <i>J. Med. Chem.</i> 26 (1983).
	Kukhanova, M., et al., "L- and D-Enantiomers of 2',3'-Dideoxycytidine...." <i>J. Biol. Chem.</i> 270(39): 23056-23059 (1995).
	Lee, Bonita et al., "In Vitro and In Vivo Comparison of the Abilities of Purine and...." <i>Antimicrobial Agents and Chemotherapy</i> 33(3):336-339 (1989).
	Lin, T.S. et al., "Antiviral Activity of 2',3'-Dideoxy- β -L-5-fluorocytidine (β -L-FddC) Against Hepatitis B Virus...." 1:65-68 (1991).
	Lin, et al., "Potent and Selective In Vitro Activity of 3'-Deoxythymidine-2-Ene-...." <i>Biochem. Pharm.</i> 36(17):2716 (1987).
	Mansuri, M.M. et al. "Preparation of the Geometric Isomers of DDC, DDA, D4C and D4T...." <i>Bioorg. Med. Chem. Lett.</i> 1:65-68 (1991).
	Matthes, E., et al., "Potent Inhibition of Hepatitis B Virus Production In Vitro by Modified" <i>Anti. Agents and Chemother.</i> 34(10):1986-1990 (1990).
	Miller, Roger H., et al., "Common Evolutionary Origin of Hepatitis B Virus and Retroviruses" <i>Proc. Natl. Acad. Sci. USA.</i> 83:2531-2535 (1986).
	Mitsuya, H. et al., "3'-Azido-3'-Deoxythymidine (BW A 509U): An Antiviral Agent that Inhibits...." <i>Proc. Natl. Acad. Sci., USA</i> 82:7097-7100 (1985).
	Mitsuya, H., et al., "Rapid In Vitro Systems for Assessing...." <i>AIDS: Modern Concepts and Therapeutic Challenges.</i> S. Broder, Ed.p. 303, Marcel-Dekker, New York (1987).
	Mitsuya, H., et al., "Molecular Targets for AIDS Theraapy" <i>Science</i> 249:1533-1544

Examiner:



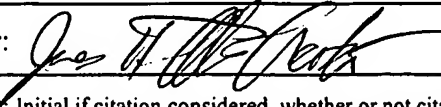
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9/9/05

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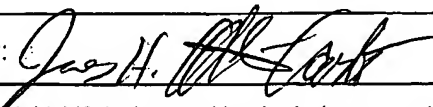
	(1990).
	Norbeck, D., et al., "A New 2',3'-Dideoxynucleoside Prototype with In Vitro Activity Against HIV" <i>Tetrahedron Lett.</i> , pp. 6263-6266 (1989).
	Okabe, M., et al., "Synthesis of the Dideoxynucleosides ddC and CNT" <i>J. Org. Chem.</i> 53(20):4780-4786 (1988).
	Ometto, M., et al., "In Vitro Biochemical Tests to Evaluate the Response to Therapy of Acute Leukemia with..." <i>Semin. Oncol.</i> 14:231-237 (1987).
	Richman, D.D., et al., "The Toxicity of Azidothymidine (AZT) in the Treatment of Patients with AIDS..." <i>N. Eng. J. Med.</i> , 317:192 (1987).
	Satsumabayashi, S. et al., "The Synthesis of 1,3-Oxathiolane-6-one Derivatives.: <i>Bull. Chem. Soc. Japan</i> 45:913 (1972).
	Schinazi, R.F., et al., "Activities of the Four Optical Isomers of 2',3'-Dideoxy-3'-Thiacytidine...." <i>Antimic. Agents & Chemother.</i> 36(3):672-676 (1992).
	Schinazi, R.F., et al., "Insights into HIV Chemotherapy" <i>AIDS Research and Human Retroviruses</i> 8(6):963-990 (1992).
	Schinazi, R.F., et al., "Pharmacokinetics and Metabolism of Racemic 2',3'-Dideoxy-5-Fluoro-3'-Thiacytidine in Rhesus Monkeys" <i>Antimicrobial Agents and Chemotherapy</i> 36(11):2432-2438 (1992).
	Schinazi, R.F., et al., "Selective Inhibition of Human Immunodeficiency Viruses...." <i>Antimicrobial Agents and Chemother.</i> 36(11):2423-2431 (1992).
	Schinazi, R. F., et al., "Substrate Specificity of Escherichia coli Thymidine Phosphorylase for Pyrimidine...." <i>Biochem. Pharm.</i> 44(2):199-204 (1992).
	Sells, Mary ann, et al., "Production of Hepatitis B Virus Particles in Hep G2 Cells...." <i>Proc. Natl. Acad. Sci. USA</i> 84:1005-1009 (1987).
	Soudeyins, H., et al., "Anti-Human Immunodeficiency Virus Type 1 Activity and In Vitro Toxicity of 2'-Deoxy-3'-Thiacytidine...." <i>Antimicrobial Agents and Chemotherapy</i> 35(7):1386-1990 (1991).
	Sterzycki, R.Z., et al., "Synthesis and Anti-HIV Activity of Several 2'-Fluoro-Containing Pyrimidine Nucleosides" <i>J. Med. Chem.</i> 33(8): 2150-2157 (1990).
	Storer, R., et al., "The Resolution and Absolute Stereochemistry of the Enantiomers of cis-1-2-(Hydromethyl-1,3-Oxathiolan-5-yl)cytosine...." <i>Nucleosides & Nucleotides</i> 12(2):225-236 (1993).
	Sureau, C., et al., "Preparation of Hepatitis B Virus by a Differentiated Human Hepatoma Cell Line After Transfection with Cloned Circular HBV DNA" <i>Cell</i> 47:37-

Examiner: 	Date Considered: 7/9/05
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.	

See note on
page 3.

Page 7 of 7

	47 (1986).
	Tsurimoto, Toshiki et al., "Stable Expression and Replication of Hepatitis B Virus Genome..." <i>Proc. Natl. Acad. Sci. USA</i> 84:444-448 (1987).
	Volk, Wesley A., editor, "Hepatitis" <i>Essentials of Medical Microbiology</i> , J.B. Lippincott Company, (Philadelphia/Toronto) 2 nd Ed. pp. 609-618 (1982).
	Vorbruggen, et al., "Nucleoside Synthesis with Trimethylsilyl Triflate and Perchlorate as Catalysts" <i>Chem. Ber.</i> 114:1234-1255 (1981).
	Wilson, L.J. et al., "The Synthesis and Anti-HIV Activity of Pyrimidine Dioxolanyl Nucleosides ." <i>Bioorganic & Medicinal Chemistry Letters</i> 3(2):169-174 (1993).
	Wilson, L.J. et al., "A General Method for Controlling Glycosylation Stereochemistry in the Synthesis...." <i>Tetrahedron Lett.</i> 31(13):1815-1818 (1990).
	World Health Organization. "Progress in the Control of Viral Hepatitis: Memorandum from a WHO Meeting." <i>Bulletin of the World Health Organization.</i> 66(4):443-455 (1988).
	Yokota et al., "Comparative Activities of Several Nucleoside Analogs Against Duck...." <i>Antimicrobial Agents and Chemotherapy.</i> 34:1326-1330 (1990).
	Zhu, Zhou, et al., "Cellular Metabolism of 3'-Azido-2',3'-Dideoxyuridine with Formation of 5'-)-Diphosphohexase..." <i>Molecular Pharmacology</i> 38:929-938 (1990).

Examiner: 	Date Considered: 9/9/05
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered; Include a copy of this form with next communication to the applicant.	